

FIGURE 1

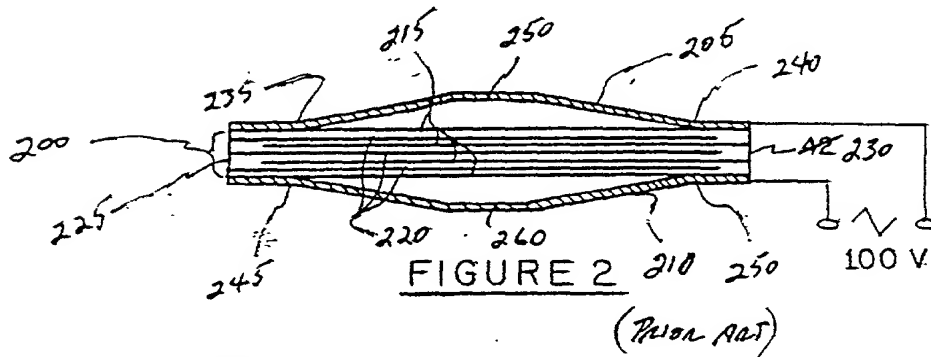


FIGURE 2

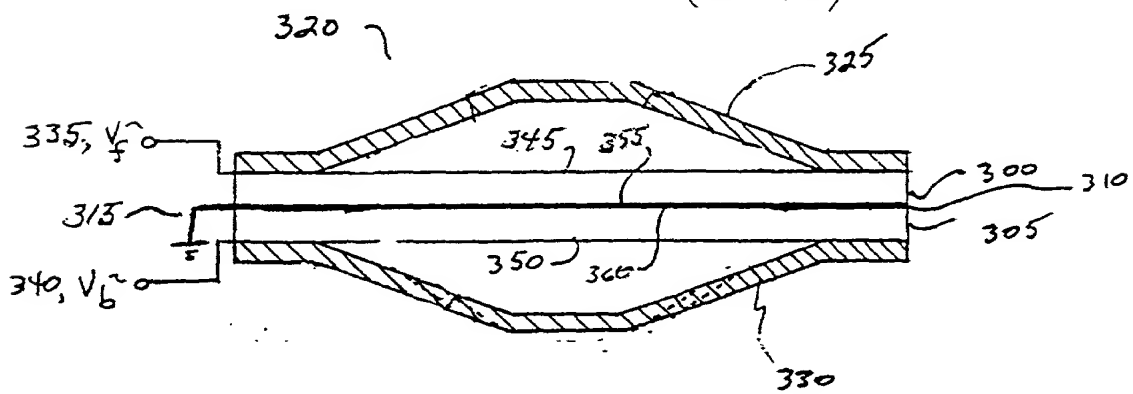


FIGURE 3

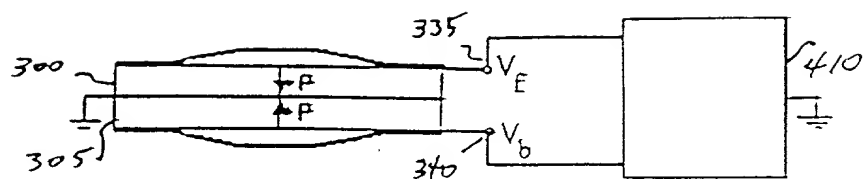


FIG. 4A

Monopole (in phase, same amplitude),  $V_b = V_f = V_m$ ,  $\varphi = 0$

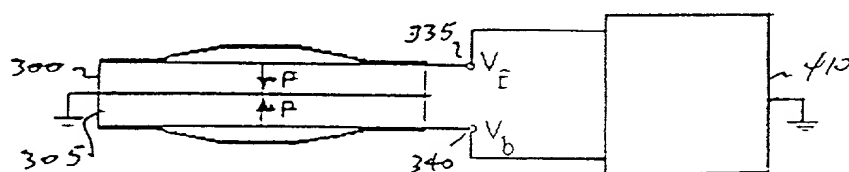


FIG. 4B

Dipole (out of phase, same amplitude),  $V_b = -V_d$ ,  $V_f = V_d$ ,  $\varphi = \pi$

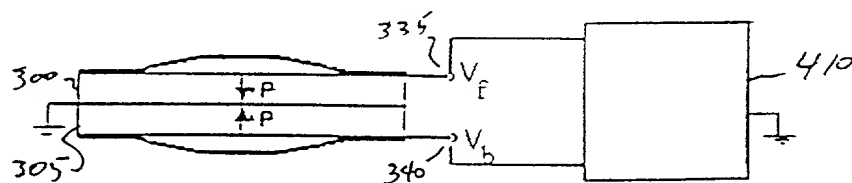


FIG. 4C

Cardioid,  $V_b / V_f = (1-R) / (1+R)$ , where  $R = TVR_m / TVR_d$ ,  $0 < \varphi < \pi$

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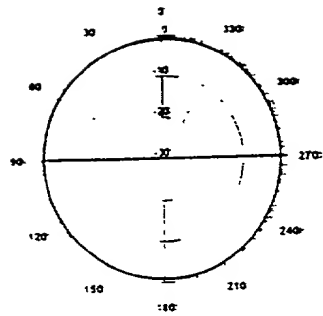
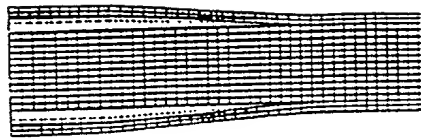


FIG. 5A Monopole mode

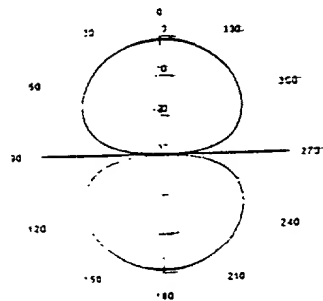
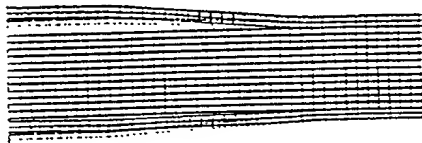


FIG. 5B dipole mode

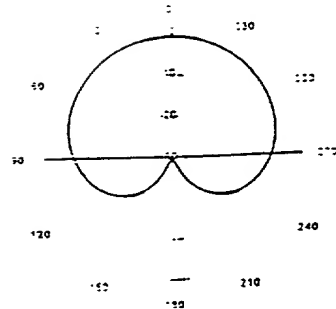


FIG. 5C cardioid mode.  $V_b, V_f = (1-R)/(1+R)$ , where  $R = TVR_m, TVR_d$

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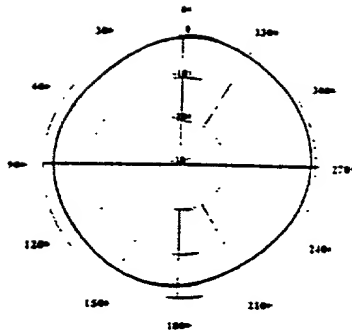


FIGURE 6A

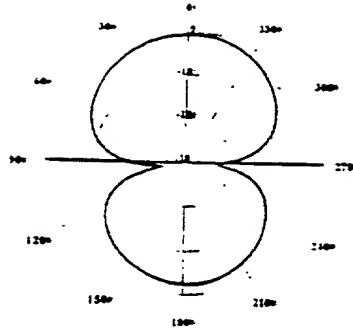


FIGURE 6B

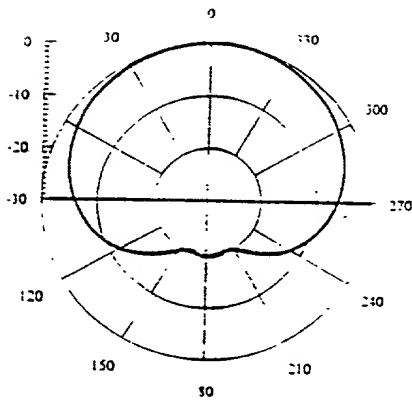


FIG. 7A

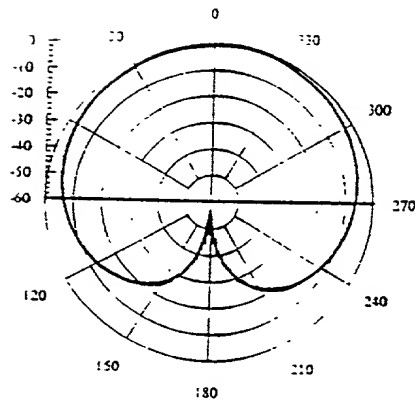


FIG. 7B

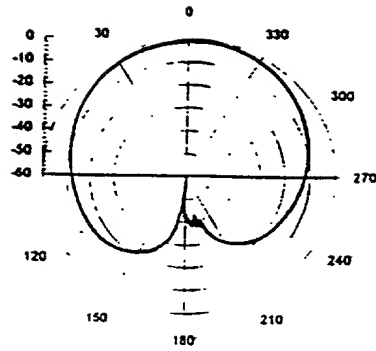


FIGURE 8A

$V_f = 100 \text{ V}$ ,  $V_b = 55 \text{ V}$ ,  $\phi = 237^\circ$

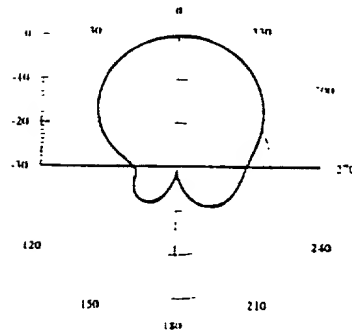


FIGURE 8B

20kHz,  $V_f = 100 \text{ V}$ ,  $V_b = 38 \text{ V}$ ,  $\phi = 268^\circ$

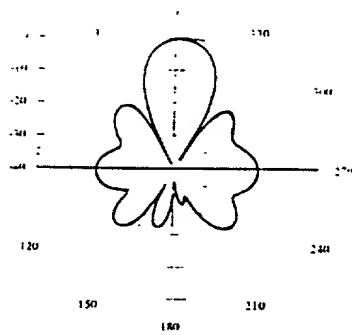


FIGURE 8C

80kHz,  $V_f = 98 \text{ V}$ ,  $V_b = 100 \text{ V}$ ,  $\phi = 332^\circ$

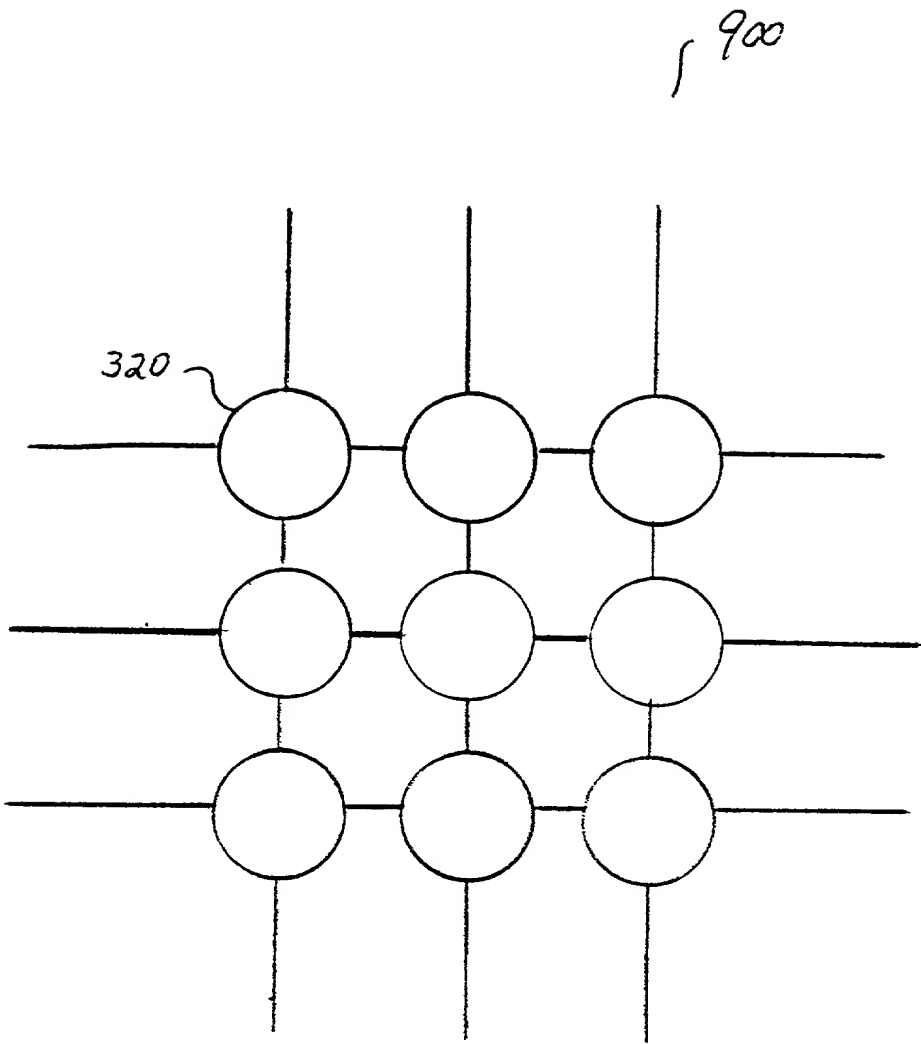


FIG. 9